

Name:

Date:

/50

%

PART A In the space on the left, write the letter of the term or phrase which **best** completes the statement or answers the question (1 mark each).

- _____ 1. Which of the following has a negative charge?
a. Neutron
b. Proton
c. Nucleus
d. Electron
- _____ 2. Potassium oxide contains _____ oxide ions.
a. 1
b. 2
c. 3
d. 4
- _____ 3. Negative ions form from ...
a. The gain of protons.
b. The loss of protons.
c. The gain of electrons.
d. The loss of electrons.
- _____ 4. Bromine contains _____ valence electrons.
a. 1
b. 3
c. 5
d. 7
- _____ 5. Which of the following elements is multivalent?
a. Sc
b. Cs
c. Ca
d. Be
- _____ 6. Triphosphorous octachloride has the following chemical formula:
a. P_3CL_8
b. P_4CL_7
c. P_3CL_6
d. P_3CL_{10}

- ___ 7. Metals that form more than one charge as an ion are called ...
a. Polyatomic
b. Multivalent
c. Diatomic
d. Multiatomic
- ___ 8. Which chemical family is composed of soft metals with very low densities?
a. Alkali metals
b. Alkaline earth metals
c. Halogens
d. Noble gases
- ___ 9. Which of the following is NOT true of ionic compounds?
a. They form crystals
b. They have a low melting point
c. They are hard and brittle
d. They conduct electricity in water
- ___ 10. ___ are found inside the nucleus.
a. Protons
b. Neutrons
c. Electrons
d. Both protons and neutrons

PART B In the space provided mark each of the following as true or false. (1 mark each)

- ___ 1. Most transition metals are multivalent.
- ___ 2. Electrons are found in the nucleus.
- ___ 3. Bohr diagrams show an atom's valence electrons only.
- ___ 4. Nitrite is a polyatomic ion.
- ___ 5. The atomic number is equal to the number of protons.
- ___ 6. The nucleus makes up the majority of the volume of an atom.
- ___ 7. Elements in the same family have similar chemical properties.
- ___ 8. Neutrons and protons have approximately the same mass.
- ___ 9. Molecular compounds are made up of a positive ion and negative ions.
- ___ 10. The chemical formula for iron (III) oxide is Fe_3O_2 .

PART C In the space provided, match each term or phrase with the best definition. (1 mark each)

- | | |
|--------------------------|--------------------------------------------------------------------------|
| ___ 1. Ionic bonding | A. Composed of more than one type of atom. |
| ___ 2. Atomic number | B. Can not be broken down into simpler materials. |
| ___ 3. Polyatomic ions | C. Located in groups 3 through 12 on the periodic table. |
| ___ 4. Nucleus | D. Has more than one ion charge. |
| ___ 5. A Bohr diagram | E. Occurs when electrons exchange between a metal and a nonmetal. |
| ___ 6. Molecular bonding | F. Columns on the periodic table. |
| ___ 7. Element | G. A diagram that shows electrons in the shells surrounding the nucleus. |
| ___ 8. Transition metal | H. Equals the number of protons for any element. |
| ___ 9. Multivalent | I. Occurs when nonmetallic atoms share electrons. |
| ___ 10. Chemical family | J. Contains the protons and neutrons of any element. |

PART D Each of the following questions requires a short answer.

1. Draw a Bohr diagram for the following. (1 mark each)

a. Carbon

b. H₂O

2. List two properties of noble gases. (2 marks)

3. Write the names of the following compounds. (1 mark each)

a. NaBr =

b. FeCl_3 =

c. Na_2SO_4 =

d. N_2O_3 =

e. $\text{Ni}_2(\text{SO}_3)_3$ =

f. H_2O =

g. NaHCO_3 =

h. Ca_3N_2 =

4. Write the chemical formula for the following ionic compounds. (1 mark each)

a. cesium oxide =

b. iodide trichloride =

c. chromium (III) sulphide =

d. ammonium carbonate =

e. strontium cyanide =

f. arsenic pentabromide =

g. tungsten (VI) nitride =

h. silver (I) dichromate =